

TWO NEW SPECIES OF GELECHIIDAE (LEPIDOPTERA) FROM KOREA,  
WITH NOTES ON THE TAXONOMIC STATUS OF *TELPHUSA*  
*EURYZEUCTA* MEYRICK

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*Abstract.*—Two new species of the family Gelechiidae, *Concubina trigonalis* Park and Ponomarenko, n. sp. and *Teleiodes gangwonensis* Park and Ponomarenko, n. sp. are described from Korea. *Telphusa euryzeucta* Meyrick, 1922, is transferred to *Concubina*: *Concubina euryzeucta* (Meyrick 1922), n. comb. *Concubina subita* N. Omelko and M. Omelko, 2004 is considered a new junior synonym of *C. euryzeucta*.

*Key Words:* Insecta, Lepidoptera, Gelechiidae, *Concubina*, *Teleiodes*, taxonomy, Korea

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The Gelechiidae of Korea were recently reviewed by Park (2004), with 146 known species. During a recent study of the material of the Gelechiidae in the collection of the Center for Insect Systematics (CIS), Korea, we found two new species that are described herein, *Concubina trigonalis* and *Teleiodes gangwonensis*. In addition, *Telphusa euryzeucta* Meyrick, 1922, which was described from a single female from Shanghai, China, is transferred to the genus *Concubina* N. Omelko and M. Omelko, because the species agrees with *Concubina* in every diagnostic aspect. Furthermore, *C. subita* N. Omelko and M. Omelko, 2004, the type species of *Concubina*, can not be distinguished morphologically from *C. euryzeucta*; thus, we propose *C. subita* as a new junior synonym of *C. euryzeucta*.

Terminology of the male genitalia mainly follows Klots (1970) and Ponomarenko (2005). The holotypes and

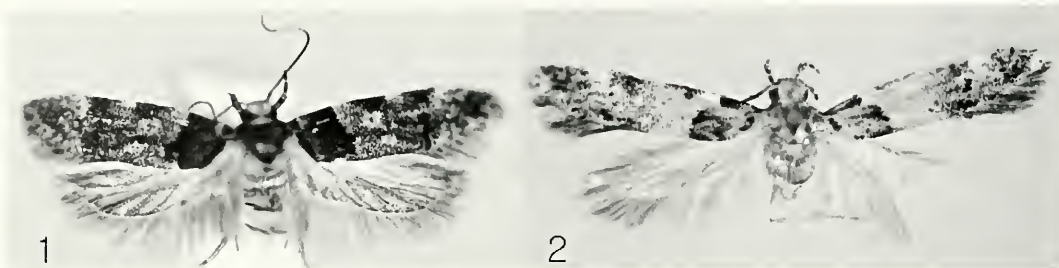
paratypes of the new species are deposited in the collection of the CIS, Chuncheon, Korea.

TAXONOMIC ACCOUNTS

*Concubina trigonalis* Park and  
Ponomarenko, new species

(Figs. 1, 3, 3a, 3b, 4)

Type material.—Holotype: ♂, Mt. Seolak-san, Gangwon Province., Korea, 10 August 1989, coll. K. T. Park, gen. prep. no. CIS-1790/Park. Paratypes: 1 ♂, Mt. Kyejok-san, Youngwol, Gangwon Prov., Korea, 14 July 1998, coll. S. M. Lee, gen. prep. no. CIS-5183/Ponomarenko; 1 ♂ and 2 ♀, Mt. Taewha-san, Youngwol, Gangwon Prov., Korea, 14 July 1998, coll. S. M. Lee; 1 ♀, Mt. Geumdan-san, Hanam, Gyeonggi Prov., Korea, 25 July 1996, coll. Bae, Paek, Lee and Ahn, gen. prep. no. CIS-5184/Ponomarenko; 1 ♀, same locality as the preceding specimen, 1 August 2000, coll. Lee & al.



Figs. 1-2. Adults. 1, *Concubina trigonalis*, holotype. 2, *Teleiodes gangwonensis*, holotype.

Description.—Wingspan 14.0–14.5 mm. Head pale gray, speckled with brownish-gray scales dorsally and with dark-gray scales laterocaudally. Tegula dark gray. Thorax dark gray, with somewhat erect scales distally. Antenna about 4/5 length of forewing; basal segment slender, dark gray; dorsum of flagellum with alternate dark and pale gray scale pattern, paler beyond middle. Second segment of labial palpus thickened, furrowed beneath, dark fuscous with three white bands; one at base, one at middle, and one at 3/4 on both surfaces; third segment dark fuscous with two white bands: one near base and one at middle; apex whitish, acute. Abdomen brownish gray dorsally. Hind tibia ochreous white, shinny, with pale brownish rough hairlike scales above. Forewing relatively broad, with dark-gray basal fascia within 1/4 length, basal fascia with oblique and sinuate outer margin; antemedian band creamy white on anterior half, with two brownish scale-tufts on posterior half, or extending to median fascia; median fascia dark fuscous, broad, exceeding 3/4 length of forewing, with several small scale-tufts on surface; costa with a small ochreous spot at middle and large, triangular ochreous patch at 3/4 length; area beyond medial fascia densely speckled with dark fuscous scales centrally; ochreous scales scattered along inner margin beyond tornus; apex obtuse; termen oblique; fringe gray, irrorated with dark fuscous scales. Vein  $R_3$  separated from

$R_{4+5}$ ;  $R_4$  and  $R_5$  stalked at middle;  $R_5$  to costa;  $M_1$  arising from cell separately;  $M_2$  close to  $M_3$  at base; distance  $M_3$ - $CuA_1$  about 1/2 of  $CuA_1$ - $CuA_2$ . Hind wing gray; apex acute; termen strongly sinuate; fringe gray. Veins Sc and Rs connected with a crossvein at basal 1/3 of Sc; Rs and  $M_1$  separated beyond cell;  $M_2$  absent;  $M_3$  and  $CuA_1$  separated.

*Male genitalia* (Figs. 3, 3a, 3b): Eighth tergite subtriangular, rather small with round apex, anterior margin roundly concave, shorter than length of eighth sternite. Eighth sternite trapezoidal, relatively short; anterior margin convex medially (Fig. 3b). Uncus slightly narrowed towards bilobed apex. Tegumen broad, divided into two relatively wide parts anteriorly, with deep emargination on anterior margin reaching to one half length, with two triangular lobes on distal part. Gnathos absent. Cucullus absent. Ventral sclerite formed by fused sacculi and vinculum, relatively wide, with two triangular plates posteriorly; saccus absent. Aedeagus stout, tubelike, much wider basally, narrowed gradually towards apex.

*Female genitalia* (Fig. 4): Ovipositor long, membrane between eighth and ninth segments more than 5.5 times as long as papillae anales. Apophyses posteriores about 3 times as long as apophyses anteriores. Eighth segment annular, with longitudinal gutter near antrum along anterior margin. Antrum sclerotized laterally, narrowed near middle. Ductus bursa membranous, about twice

as long as corpus bursae, with dilated anterior half; ductus seminalis arising from distal part. Corpus bursa oval, membranous, with dense spicules on inner surface; signum rhomboidal, large, with serrated margins and a transverse furrow medially.

Distribution.—Korea (central).

Etymology.—The specific name is derived from the Greek, “*trigono*,” referring to the shape of the fusion of the vinculum and the sacculus.

Diagnosis.—*Concubina trigonalis* is similar to *C. euryzeucta* Meyrick, 1922, which was described in the genus *Telphusa* Chambers from China, in the structure of the male and female genitalia, but it differs from the latter species in having the uncus slightly narrowed distally and bilobed at its apex, the ventral sclerite with triangular plates posteriorly instead of plates rounded on distal margin of *euryzeucta* Meyrick in the male genitalia, and longer eighth sternite in the female genitalia.

Remarks.—The genus *Concubina* N. Omelko and M. Omelko, 2004 was described as monotypic with the type species *C. subita* N. Omelko and M. Omelko, 2004, from far eastern Russia. This is the second species of the genus. The genus is restricted to far eastern Asia, including Russia, central Korean Peninsula, and eastern, northern, and central China. The host plants of only *C. euryzeucta* Meyrick are known. Larvae feed on *Prunus persica* Batsch, *P. pseudocerasus* Lindl., *P. armenicana* L., *P. salicina* Lindl., *P. mume* Sieb. et Zucc (Li 2002).

*Concubina euryzeucta* (Meyrick 1922),  
n. comb.

*Telphusa euryzeucta* Meyrick 1922: 501; Caradja and Meyrick 1936: 157; Li 2002: 120. TL: Shanghai, China.

*Concubina subita* N. Omelko and M. Omelko 2004: 193, figs. 1–5. New synonymy.

Diagnosis.—Wingspan 12–16 mm. This species is similar to the preceding new species, *C. trigonalis*, by the forewing pattern, but it can be distinguishable by the white ground color of the forewing with a large costal spot at the middle. Also it can be distinguished by the structure of the male genitalia as noted in the diagnosis of *C. trigonalis*.

Remarks.—Originally, *euryzeucta* Meyrick, 1922, was described in the genus *Telphusa* Chambers, but it differs from the type species, *Telphusa curvistrigella* Chambers, 1872 (= *T. longifasciella* (Clemens, 1863)) by the absence of gnathos, the reduced cucullus, and the fused sacculus and vinculum. The forewing pattern and the genitalia of both sexes of *euryzeucta* Meyrick, 1922, figured by Li (2002: 122, figs. 118, 119) turned out identical to *Concubina subita* N. Omelko and M. Omelko (2004: 195, figs. 1–5), which is the type species of the genus *Concubina*, and *C. subita* is herein synonymized with *C. euryzeucta* Meyrick.

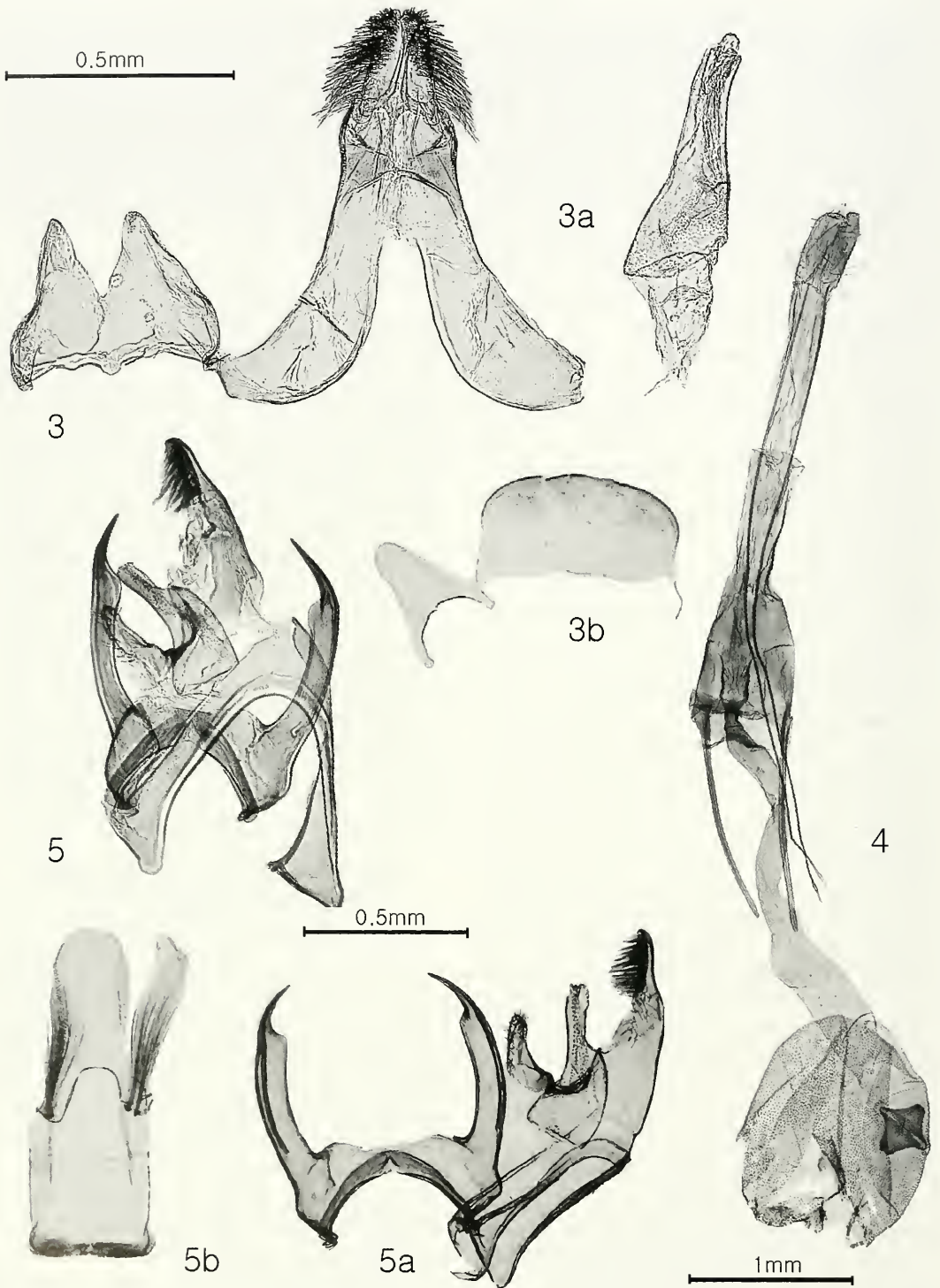
Distribution.—China (Beijing, Tianjin, Hebei, Shanxi, Shandong, Shanghai, Gansu, Qinghai, Shaanxi, Hunan, Jiangxi); Russia (Primorsk Territory).

***Teleiodes gangwonensis* Park and  
Ponomarenko, new species**  
(Figs. 2, 5, 5a, 5b)

Type material.—Holotype: ♂, Seomyun, Yangyang, Gangwon Prov., Korea, 17 August 1992, coll. K. T. Park and B. K. Byun, gen. prep. no. CIS-5199/Park. Paratype: 1 ♂, Chuncheon, Gangwon Prov., Korea, 11 June 1989, coll. K. T. Park, gen. prep. no. CIS-5148/Ponomarenko.

Description.—Wingspan, 10.0–10.5 mm. Head pale gray with dark gray scales laterally. Tegula and thorax grayish, speckled with dark-gray scales. Antenna with basal segment gray dorsally; flagellum with alternate dark and pale gray scale pattern dorsally. Second segment of labial palpus





Figs. 3-5. Male and female genitalia. 3, Male genitalia of *Concubina trigonalis*, gen. prep. no. 1970, holotype. 3a, Aedeagus. 3b, Eighth tergite and sternite, holotype. 4, Female genitalia, gen. prep. no. 5184. 5, Male genitalia of *Teleiodes gangwonensis*, paratype, gen. prep. no. 5148. 5a, Same of *T. gangwonensis*, holotype, lateral view, gen. prep. no. 5199. 5b, Eighth tergite and sternite of abdomen of *T. gangwonensis*, holotype.

thickened, pale gray with three dark brown bands: near base, beyond middle, and at preapex; third segment ochreous white to pale gray, with dark gray bands: at base, middle, and preapex, middle one very broad; apex acute, whitish. Forewing ground color pale gray, with dark-gray basal fascia; outer margin of basal fascia incised at 1/3, convex beyond 1/3; antemedian band broad, pale brown, with a large, triangular costal patch at 1/3; median fascia dark gray, broadly developed; an ochreous white patch beyond median fascia along costa; dark fuscous scales scattered beyond median fascia; apex acute; termen strongly oblique; fringe dark gray. Hind wing pale gray; apex acute; termen strongly sinuate; fringe grayish orange. The female is unknown.

*Male genitalia* (Figs. 5, 5a, 5b): Eighth tergite cone-shaped, much longer than sternite; anterior margin deeply emarginated, reaching 1/3 of its total length. Eighth sternite trapezoidal, with a pair of dense hair pencils along anterior margin; anterior margin slightly concave medially (fig. 5b). Uncus narrowed distally, apically truncate. Gnathos absent. Tegumen long, anterior half divided into broad lateral parts; anterior margin deeply emarginated to half length. Cucullus absent. Glanductors abruptly narrowed beyond 3/4 length, forming a long spine-like process. Glandular ductus extending from 1/4 to apex of glanductors. Ventral sclerite formed by fused vinculum and sacculus, consisting of two parts, with heavily sclerotized band along anterior margin. Aedeagus stout, truncated beyond 2/3, with an elongate parallel apex. Vesica with several small cornuti. Juxta with a ventrolateral support for aedeagus, with long fingerlike, weakly sclerotized setaceous lateral lobes.

*Distribution*.—Korea (central).

*Etymology*.—The specific name is derived from the collecting locality of the holotype, "Gangwon."

*Diagnosis*.—The new species is very similar to *Teleiodes luculella* (Hübner) in

the structure of the male genitalia and the pattern of the forewing (Huemer and Karsholt 1999: 227, fig. 21), but it differs from the latter by having a longer uncus; abruptly narrowed glanductors (referred as valva by Huemer and Karsholt 1999), which are narrow and strongly curved in *luculella* (Hübner); and an abruptly truncated distal part of the aedeagus proximal to the apex, with the distal part forming a narrow tube.

*Remarks*.—The genus *Teleiodes* Sattler, 1960 comprises more than 100 species distributed worldwide. Many of the species have been transferred into other genera; *Carpatolechia* Capuse, *Pseudotelphusa* Janse, *Istrianis* Meyrick, and *Streyella* Janse, but *Teleiodes* Sattler is still considered polyphyletic and needs to be revised. The newly described species belongs to the monophyletic species group together with the type species of the genus, *Teleiodes vulgella* [Denis and Schiffermüller], 1775. Larvae feed on various deciduous trees and bushes of different families: Rosaceae, Fagaceae, Betulaceae, Corylaceae, and Salicaceae (Huemer and Karsholt 1999).

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